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Wireless Internet service provider

From Wikipedia, the free encyclopedia
(Redirected from Wireless internet service provider)

A **wireless Internet service provider** (**WISP**) is an Internet service provider with a network based on wireless networking. Technology may include commonplace Wi-Fi wireless mesh networking, or proprietary equipment designed to operate over open 900 MHz, 2.4 GHz, 4.9, 5.2, 5.4, 5.7, and 5.8 GHz bands or licensed frequencies in the UHF band (including the MMDS frequency band) and LMDS

In the US, the Federal Communications Commission (FCC) released Report and Order, FCC 05-56 in 2005 that revised the FCC's rules to open the 3650 MHz band for terrestrial wireless broadband operations.[1] On November 14, 2007 the Commission released Public Notice (DA 07-4605) in which the Wireless Telecommunications Bureau announced the start date for licensing and registration process for the 3650-3700 MHz band.[2]

Aspen Communication's wireless access point in Tyler, Texas

An embedded RouterBoard 112 with U.FL-RSMA pigtail and R52 miniPCI Wi-Fi card widely used by WISPs in the Czech Republic

Typical WISP Customer-premises equipment (CPE) installed on a residence.

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History [edit]

Initially, WISPs were only found in rural areas not covered by cable or DSL.[3] The first WISP in the world[*citation needed*] was LARIAT, a non-profit rural telecommunications cooperative founded in 1992 by Brett Glass in Laramie, Wyoming. LARIAT originally used WaveLAN equipment, manufactured by the NCR Corporation, which operated on the 900 MHz unlicensed radio band. LARIAT was taken private in 2003 and continues to exist as a for-profit wireless ISP.

Another early WISP was a company called Internet Office Parks in Johannesburg, South Africa that was founded by Roy Pater, Brett Airey and Attila Barath in January 1996 when they realized the South African Telco, Telkom could not keep up with the demand for dedicated Internet links for business use.[*citation needed*] Using what was one of the first wireless LAN products available for wireless barcode scanning in stores, called Aironet (now owned by Cisco), they worked out if they ran a dedicated Telco link into the highest building in a business area or CBD they could wirelessly "cable" up all the other buildings back to this main point and would only require one link from the Telco to connect up hundreds of businesses at the same time. In turn each "satellite" building was wired up with Ethernet so each business connected into the Ethernet LAN and could instantly get Internet access. Due to the immaturity of wireless technology, security issues and being forced constantly by Telkom SA (Then the government Telco in South Africa) to cease its service, the company closed its doors in Jan 1999.[*citation needed*]

There were 879 Wi-Fi based WISPs in the Czech Republic as of May 2008,[4][5] making it the country with most Wi-Fi access points in the whole EU.[6][7] The providing of wireless Internet has a big potential of lowering the "digital gap" or "Internet gap" in the developing countries. Geekcorps actively help in Africa with among others wireless network building. An example of a typical WISP system is such as the one deployed by Gaiacom Wireless Networks which is based on WiFi standards. The One Laptop per Child project strongly relies on good Internet connectivity, which can most likely be provided in rural areas only with satellite or wireless network Internet access.

Overview [edit]

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WISPs often offer additional services like location based content, Virtual Private Networking and Voice over IP. Isolated municipal ISPs and larger state-wide initiatives alike are tightly focused on wireless networking.

WISPs are predominantly in rural environments where cable and digital subscriber lines are not available. WiMax is expected to become mainstream in the near future, bringing with it dramatic changes to the marketplace by increasing the number of interoperable equipment on the market and making mobile data transmission feasible, increasing the utility of such networks in rural environments. However, high-bandwidth wireless backhauls are already common in major cities[*citation needed*], providing levels of bandwidth previously only available through expensive fiber optic connections.

Typically, the way that a WISP operates is to pull a large and usually expensive point to point connection to the center of the area they wish to service. From here, they will need to find some sort of elevated point in the region, such as a radio or water tower, on which to mount their equipment. The WISP may also connect to a PoP (Point of Presence) and then backhaul to their towers, reducing the need to pull a point to point connection to the tower. On the consumer's side, they will mount a small dish or antenna to the roof of their home and point it back to the WISP's nearest antenna site. When operating over the tightly limited range of the heavily populated 2.4 GHz band, as nearly all 802.11-based WiFi providers do, it is not uncommon to also see access points mounted on light posts and customer buildings.

Since it is difficult for a single service provider to build an infrastructure that offers global access to its subscribers, roaming between service providers is encouraged by the Wi-Fi Alliance with the protocol WISPr is a set of recommendations approved by the alliance which facilitate inter-network and inter-operator roaming of Wi-Fi users. Modern wireless services have comparable latency to other terrestrial broadband networks

Technology problems [edit]

- Line-of-sight and non-line-of-sight propagation[8]

See also [edit]

- Wireless local loop
- ConnectKentucky
- Geekcorps
- Neighbourhood Internet Service Provider (NISP)
- Satellite Internet access
- Motorola Canopy
- Mikrotik

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External links [edit]

- WISPA - a trade association for WISP owner/operators
- Wireless ISP FAQ

Media [edit]

- Daily Wireless – Wireless ISP news
- Want Wireless Broadband Today? Try a WISP

Categories: Wireless internet service providers | Wireless networking

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